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ABSTRACT OF THE DISCLOSURE

A fuel cell includes an anode electrode, a cathode electrode, and a third electrode interposed between the anode and the cathode electrodes. The third electrode preferably includes an electrically conductive component. The third electrode preferably includes a metallic and a polymer grid and/or a conducting polymer. The third electrode may be used to control processes of the anode and/or the cathode electrodes. The third electrode may also be used to monitor the health of any component of the fuel cell.